Spine and dura-mater: from lumbar pedicle to skull basis

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This issue aimed at providing papers devoted to spine anatomy of strong clinical, surgical, and radiological relevance, on various topics. Interesting both surgeons and radiologists, the role of CT scan for guiding percutaneous discectomy, by means of 3D determination of anatomical references, was high-lighted.

Investigating accurately both nervous and osseous structures is one of the major assets of MRI. A very striking example is given by the tethered cord syndrome, a clinical entity related to a low or very low level of the conus medullaris, but sometimes associated with anatomical vertebral changes. On a very close topic, if the posterior defects of the cervical vertebrae are rare, they can be encountered and lead to difficult diagnosis in trauma conditions, and cases of posterior agenesis of the pedicle were reported and analyzed.

Stability of the cervico-occipital junction is evidently of paramount importance, and may be jeopardized by a number of anatomical specificities, here illustrated by two examples.

At the C1–C2 level, the role of the transverse ligament in the stability is of high importance, as is the case with the density variations of transverse ligament tubercles that support its insertion. These variations have been studied on multidetector computed tomography.

Another example is “os odontoïdum”, a complex entity, the imaging of which being crucial, both for diagnosis and therapeutic decision.

In the field of cervical pain, new insights could be given by the innervation of the longitudinal ligaments, as suggested by a detailed anatomical study.

From a close but more general point of view, the functional role in head movements of connective tissues that are present between the suboccipital muscles and the cervical dura-mater and form the myodural bridges can be discussed in the light of a new anatomic and histologic study.

More basically, large series of cone-beam-computed-tomographies carries important features about the variations of skull basis foramina.

Finally, in continuity with the cervical dura-mater, the dural arterial blood supply has been studied in the dorso-clival area.

We hope you will enjoy reading this issue

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